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ABSTRACT

Using adult learning theory, this quasi-experimental study, involving a convenience sample of senior student nurses (n=13) enrolled in an Interactive Television (ITV) Course at East Tennessee State University, evaluated the perceived importance of engaged learning activities used. Subjects completed pre-test, post-test, and reflective papers. Analysis focused on the students' evaluation of the following factors: learner choice in selecting assignments and choosing tasks, small group activities, interaction with other students at other sites, classroom tasks linked to real world applications, and reflective paper exercises. Findings indicated that students enjoyed small group activities, as well as opportunities to select assignments and choose tasks. However, students did not feel that being in an ITV course enhanced their understanding of the course material. (Contains 23 references.) (Author/AEF)

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Evaluation of Engaged Learning Activities Used in an Interactive Television Course

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Abstract

A paucity of research exists that evaluates effectiveness of engaged learning activities in distance education. Using Adult Learning Theory, this quasi-experimental study involves a convenience sample of senior student nurses (N=13) enrolled in an interactive television course, and evaluates the perceived importance of engaged learning activities used. Subjects complete Pre-test, Post-test, and Reflective Papers. Findings indicate that students enjoyed small group activities, and opportunities to select assignments and choose tasks. However, students did not feel that being in an ITV course enhanced their understanding of the course material.

Evaluation of Engaged Learning Activities Used in an Interactive Television Course

This quasi-experimental study focuses on the student's perceptions of the effectiveness of innovative teaching strategies to promote engaged learning in an Interactive Television Course (ITV) in the College of Nursing, East Tennessee State University, Johnson City, Tennessee. Distance education via interactive television, videotaped classes, satellite and video-teleconferencing is providing a growing medium for students in rural areas and employed Registered Nurses to gain greater access to nursing education programs (Shoemaker, 1993; Myer, Brenner, & Wood, 1995; Major & Shane, 1991i Havice & Knowles, 1995; and Billings, Durham, Finke, Boland, Smith, & Manz, 1994). As a result of the increasing use of technology, there is a need for nurse educators to evaluate the effectiveness of the technology educational program and the extent to which it promotes and supports the student's engaged learning and collaboration (Jones, Valdez, Nowakowski, & Rasmussen, n.d.). This study will identify engaged learning activities used in one interactive television course by the faculty (Appendix A).

The analysis will focus on the student's evaluation of the following factors: learner given a choice in selecting assignments and choosing tasks, small group activities, interaction with other students at other sites, classroom tasks linked to real world applications, and reflective paper exercises.

Statement of the Problem

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Traditionally, nursing students have been taught in a classroom setting in a health care agency, community college, or university. But, with the increasing availability of sophisticated technology that is affordable and dynamic, a shift in learning sites is reasonable. Moller and Draper (1996) write: "Successful use of distance education requires sequentially planning four key factors: learning effectiveness, technology, cost and secondary effects on participants." In the article by Wagner (1995) she asserts when learners are active participants in the learning process, they will remember more. In addition, she cites a need for an evaluation of effectiveness of teaching techniques and models of teaching. Shaeffer and Farr's (1993) article "Evaluation: A Key Piece in the Distance Education Puzzle," contends that two of the elements in a successful program are class-by-class feedback forms and student evaluations.

Jones et al. (n.d.) write: "Studies show that regardless of the quality of the production or the specific technology used, students learn equally well with each distance education technology; they also learn as well as students who obtain information 'face to face.' But, this is not enough. The next generation of distance education technologies must promote engaged learning." These references support the need for research to evaluate the effectiveness of distance education technology and the promotion of engaged learning.

Purpose of the Study

The purpose of this study is to identify the perceived importance of engaged learning activities in an interactive television course by student nurses. If the findings indicate students prefer other forms of engaged learning activities to be used in the course, then revisions in the nursing course syllabus will be considered.

Research Question

This study examines the following question: What is the perceived importance of engaged learning activities in an Interactive Television Course?

Significance of the Problem

There is a paucity of literature available that evaluates the effectiveness of engaged learning activities in distance education. This study will put forth ideas for further exploration of these learning strategies and their effectiveness in interactive television courses.

Limitations

Limitations of the study include:

1. Lack of a random sample. Therefore, the study results cannot be generalized to another population.

2. Random errors due to lack of time the student has to review and read the questionnaire carefully. The questionnaire has been designed to be relatively short.

3. Engaged learning activities identified by literature review might not be all inclusive.

4. Data is limited to students in one interactive television course.

5. Sample size is small.

6. Lack of reliability and validity of the questionnaire.

Definition

The following definition is important in the review of this study:

Engaged Learners. "Engaged learners are: responsible for their own learning; energized by learning; strategic; collaborative" (Jones et al., n.d., p. 1).

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Overview

The study is designed to identify the perceived importance of engaged learning activities in an interactive television course. Section II is a review of the literature related to distance education. Section III presents a discussion of the methodology, study population, instruments, setting, and data analysis. Section IV documents the findings, discussion and recommendations of the study.

Section II

Literature Review

A review of the literature indicates distance education is a trend in educational reform. This trend has been brought about by the increased availability of sophisticated technology and reduced government funding (Gates, 1996). Jones et al. (n.d.) write: "A recent Department of Education report notes, 'Support for the use of technology to promote fundamental school reforms appears to be reaching a new high.'" The question is: How does this technology promote and support engaged learning? This review of selected literature proceeds as follows: (1) First, the literature relevant to adult learners and future technology is discussed; (2) next, general literature related to distance education is addressed; and (3) finally, nursing literature is examined to determine the use of distance education in nursing programs.

Literature Relating to Adult Learners and Future Technology

Four main characteristics describe the adult learner: self directed, past life experiences, problem-solving time perspective and a readiness to learn (Knowles, 1970; Fuszard, 1995). Therefore the facilitator engaged in the educational process with an adult learner should expect a motivated, self-directed, and serious individual. Davis and Henry (1997) studied the affective forces that impact nontraditional students in distance education and found significant differences in students' judging/perceptual attitudes. This individual adult learner should receive respect and be able to build upon his/her past life experiences. Also, the learner should be engaged in selection of assignments, collaborative learning activities, and be an active participant in the learning process.

In today's world, technology is rapidly changing educational programs, the role of the teacher and student (Gates, 1996; Serim & Koch, 1996; Tapscott, 1996). Gates (1996) discusses the fact that due to decreased budgets and reduced government funding some colleges are offering distance learning courses by televising a campus course and transmitting it to multiple remote sites.

Today's school is described by Serim and Koch (1996) as having interaction with the world and multidisciplinary real-world projects and classes. The "schoolhouse" of the future may be neither a school or a house, writes Tapscott (1996). The future educational system that fully integrates available sophisticated technology into every discipline will be awesome.

What about faculty perceptions of all this? Gross (1997) found that some faculty remain resistant to distance education because of the increased workload, pay, authorship, technical and clerical support issues, and problems engaging students. In the educational system of the future, the teacher will not be just the "relayer of information," but a facilitator in the learning process, and the learner must be engaged in that process.

General Literature Related to Distance Education

Galusha (n.d.) discusses distance learning as an excellent method of teaching for the adult learner who has multiple roles and responsibilities. Souder (1993) writes that students in their distance learning programs were generally older, had more experience, and were employed. It appears from these two studies that distance education is one method of reaching out to the older adult learner.

Davis and Henry (1997) concluded that learner/instructor interaction is essential and must be reinforced in the classroom. Wagner (1995) and Horn (1994) both agreed that student-teacher interaction plays a major role in any learning environment and that when learners are active participants in the learning process, they perform better. But

is this possible to achieve in distance education?

Moller and Draper (1996) found that the traditional teacher will be challenged to meet the demands of the new medium. They state, "presentation skills must evolve to communicate key learning points." Olcott (1992), Garrison (1990), Shaeffer and Farr (1993), Egan, Sebastian, Welch, Page, Nkabinde, and Jones (1992), and Jones et al. (n.d.) all agree that distance education requires instructors to rethink their teaching/learning strategies. Also, they write there is a need for further research and evaluation of distance education learning strategies.

Nursing Literature

The use of various distance education programs and projects has been discussed by Myer et al. (1995); Shoemaker (1993), and Major and Shane (1991). All of these articles described experiences of developing outreach nursing educational programs for RN-BSN students. Major and Shane (1991) commented that students felt isolated. Because of this sense of isolation, faculty was challenged to rethink learning strategies. Havice and Knowles (1995) suggest a strategy to assist in reducing student feelings of isolation, i.e., "have the system operational 15 minutes before and 15 minutes after class for informal discussions with the instructor." Davis and Henry (1997) found that nontraditional adult learners (all) were able to remain focused on a distance education course when the instructor used a variety of methods and models. Shoemaker (1993) concluded that the televised educational process requires "development of new means of teaching, development of delivery, and new relationships with students." Most faculty in a study conducted by Billings et al. (1994) found it necessary to change their preferred teaching style at least somewhat.

In summary, this brief literature review revealed several trends: (1) Distance education will be used more in future educational programs, (2) distance education challenges the instructor to creatively rethink learning strategies which engage the learner as an active participant in the process, and (3) there is a need for further evaluation of the effectiveness of distance education learning strategies.

Section III

Methodology

This quasi-experimental study included 13 senior-level nursing students enrolled in an interactive television distance education course during Fall Semester, 1997. The study was conducted between August 24, 1997 and October 29, 1997.

Population

Although subjects usually are selected randomly, this study involved a convenience sample: a student group comprised of 11 females and 2 males. Most of the subjects were married, full-time students and parents, in addition to being employed part-time. This group of adult learners (ranging in age from 23-37: mean age of 27.92 years) was self-directed, motivated and very serious about their families, education and career choice.

Instrument

A pre-test and post-test was developed by the principal investigator and faculty member to examine the perceived importance of engaged learning activities in an interactive television course. Subjects rated the engaged learning activities using a 7-point Likert-type scale asking to what extent ("not at all" to "very much") they believed an item to be true. One open-ended question asked how the respondent felt the opportunity to be in this interactive television course enhanced their understanding of the course material. The pre-test was administered the first day of class, August 24, 1997 and the post-test was administered the last day of class.

Reflective Papers

The students were requested to answer four open-ended questions on a reflective paper at the end of each class period to provide ongoing feedback.

Setting

The interactive television course was broadcast from a studio classroom in Brown Hall on the main campus at East Tennessee State University, Johnson City, Tennessee. The broadcast was transmitted through a two-way audio and video fiber optic system. The off-campus receive site was located in a studio classroom at ETSU/UT in Kingsport, Tennessee.

Data Analysis

In this study, the pre-test and post-test questions were analyzed by descriptive statistical analysis that included means and standard deviation. In addition, a comparison of each survey item between the pre-test and post-test using independent (unpaired) two-tailed students t-test was conducted. Content analysis was used to analyze responses to the open-ended question. Also, the principal investigator and faculty member examined responses to Questions 2 and 4 on the reflective papers for general themes and patterns.

Section IV

Findings

The results of the descriptive statistical analysis from the 13 pre-tests and 12 post-tests are shown in the following table.

Table 1

Means and Standard Deviation from Pre- and Post-test, Fall, 1997

		N	Mean	Std Deviation	Std. Error Mean
Q1 How important do you feel is the fact that the learner has a choice in selecting assignments and choosing tasks?	Pre	13	4.54	.97	.27
	Post	12	4.50	.90	.26
Q2 To what extent do you feel small group activities will contribute to your understanding of the course material?	Pre	13	4.38	.87	.24
	Post	12	4.75	.75	.22
Q3 To what extent do you feel the conversations with other students, at the other sites, will help you understand the course materials?	Pre	13	3.54	.97	.27
	Post	12	2.75	1.42	.41
Q4 How important do you feel it is that classroom tasks are linked to real world applications?	Pre	13	4.46	1.33	.37
	Post	12	4.58	1.00	.29
Q5 To what extent do you feel that your opportunity to be in this interactive TV course will enhance your understanding of the course?	Pre	13	2.54	.97	.27
	Post	12	2.08	1.16	.34

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the course?

As seen in Table 1, the mean response ranged from a low of 2.08 on Question 5 to a high of 4.75 on Question 2. The level of agreement among students was greatest for Item 1, whereas the level of agreement was lowest for Item 3. When pre-test and post-test means were compared, no significant differences among the means were found.

The content analysis of the open-ended question on the preand post-test contained the following themes: (1) Interaction, (2) Students' Reaction to ITV, (3) Engaged Learning Activities, and (4) Student Suggestions for Future Course Planning. A few examples of student's verbatim comments are listed under each theme.

1. Interaction
"Include discussion among sites regarding clinical experiences. Activities are very difficult to get involved in due to the isolation of ITV."

2. Students' Reaction to ITV
"No ITV."
"ITV is something I would like to change. I feel I could have learned more if the instructor had been hands on."
"Evaluate the grades for students at the site where the instructor is as compared to grades at the other site. Have you tried that as a measure of the success or failure of ITV as a whole?"

3. Engaged Learning Activities
"Work sheets are good. Outside homework helps when reading."
"Direct lecture is not effective for this class--the material presented and the students' way of learning. . . ."
"Case studies."
"I feel the engaged learning activities are very important and helpful. Unfortunately, ITV takes away from the success. It's hard to interact with a television."

4. Student Suggestions for Future Course Planning
"More specific reading assignments. Too many pages to absorb!"
"When working with a psych patient . . . that is really not oriented or psychotic--some things students need to be aware of, or just some knowledge of clinical experience that you have seen in the past."

The following themes surfaced during the analyses of Question 2 and Question 4 from the weekly reflective papers. These included: (1) Engaged Learning Activities, (2) Interaction, (3) Student Suggestions for Future Course Planning, and (4) Reactions to ITV. A few examples of students' verbatim comments are listed under each theme.

1. Engaged Learning Activities
"I liked the puzzles and group activities."
"The most useful activity was the critical thinking activity because it requires thought for an actual situation. Learning is at its best when you work through real life situations."

2. Interaction
"Give us more time to discuss in our groups. Discussion is much more learning-friendly than lecture. As long as people speak up, this can be accomplished via ITV."
"Conversing with instructor."
"Critical thinking activities which produce good conversation topics."

3. Suggestions for Future Course Planning
"Thanks for outlines and activity sheets."
"More case studies--question and answer--discussion."
"I like the use of overheads during lecture. It helps in note taking by seeing key points on the screen during the discussion of that topic."
"Continue with the study guides. They help! Thank you again for meeting with us the other day."

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4. Reactions to ITV
"You handled this class as well as it could be. I would have preferred no ITV. The group and discussion activities would be more interactive if we were all together. Thanks for trying so hard!"
"Interaction with/sites--because of questions asked in class by instructor."
"Still having problems with speakers."

Discussion

Pre- and post-test responses and the weekly reflective papers indicated that the majority of this student population liked the group activities. One student commented that "discussion is more user friendly than lecture" and another that "application of knowledge/information to 'real-life' situations requires thought, and enhances learning." Role playing and case studies were mentioned specifically. One student did not like group activities and suggested, "Stop doing class activities. Just lecture." On exam day, however, no group activities were planned and the students commented that they missed them because "they always help and enable us to use our critical thinking skills."

There were a few comments favoring lectures and specifically mentioned those which addressed topics of ethics, legal aspects, nursing dependency issues, and community resources. Another student stated, "I have no idea how to make this topic 'less dry' for me. Psych is just not the most interesting topic for me, although I value the importance." Overall, students wrote that they liked the relaxed atmosphere, interactions with students at the remote site, role playing, good feedback and examples from clinical practice.

This group of students liked being able to select course assignments and choose tasks. According to Knowles (1970), adult learners prefer involvement in planning and selection of choices regarding learning activities. They enjoyed being consulted about the sequencing and scheduling of course content, examinations, and engaged learning activities. For example, this group shared that "even though it is time-consuming, homework assignments really help me understand what I am reading and really make me think," and another remarked that "working through some sample test questions during each class would be helpful so they could become accustomed to the type of questions they might see on exams." In addition, they wanted a review prior to scheduled exams and requested special emphasis on Psychopharmacology. As expected from adult learners (Knowles, 1970; Fuszard, 1995), students felt that linking classroom tasks to "real-world" situations was valuable.

The findings from Question 3 on Table 1 might suggest that students enjoy interaction with students at the same site more than interaction with students at the remote sites. Even though ITV has limitations in terms of interactions, with emphasis on the instructor's ongoing planning and evaluation, engaged learning activities, and personal contact as requested via reflective papers, student satisfaction with this medium will likely increase. The reflective papers provided the students the opportunity to interact personally with the instructor via telephone if they indicated that they did not understand a concept from the class lecture.

Question 5 asked for feelings regarding the opportunity to be in an interactive television course. The level of agreement among the students was low for this item, perhaps indicating some dissatisfaction with ITV or a preference for a traditional learning environment. However, these students appreciated attending class in their own communities rather than commuting to the university. Olcott (1992) reports that students have mixed attitudes toward ITV and, given a choice, prefer traditional face-to-face instruction.

Problems with ITV identified by this student population included: (1) Problems with interaction--(student-to-student). "Group and discussion activities would be more interactive if we were all together," and there are "problems hearing and being heard" (student-to-instructor and student-to-student). We consistently worked to remedy that situation throughout the term by encouraging students to "speak up, speak directly in the microphones, and to let us know if they cannot hear;" and (2) Grades were another student concern. One student suggestion was that a "study be made of the students' grades at the site where the instructor is located and compare with the grades made by students at the remote sites to determine which group made higher grades." Comments related to interaction (student-to-student and faculty-to-student) generally were positive and enhanced by the engaged learning activities and reflective papers.

Recommendations

A number of recommendations may be considered from this study: Faculty members should consider rotating the teaching of the course at each remote site, continue use of reflective papers for ongoing feedback, offer students alternatives in terms of choices in assignments and choosing tasks, and retain involvement of students in engaged learning activities. Finally, the need for research endeavors, which foster engagement and interactivity in the classroom and capitalize on the strengths of instruction responsive to student needs, continues.

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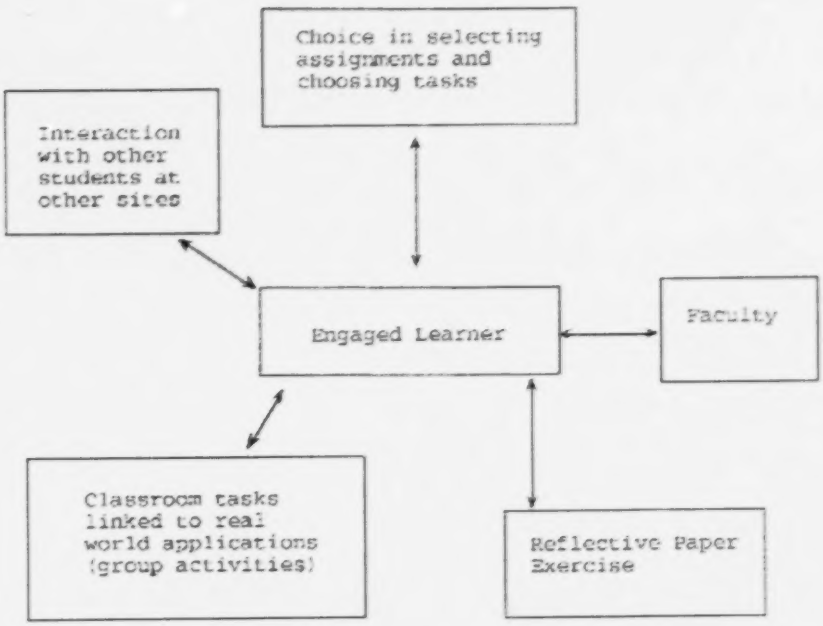
Appendix A

Engaged Learning Activities


Choice in selecting assigments and choosing tasks
Interaction with other students at other sites
Engaged Learner
Faculty
Classroom tasks linked to real world applications (group activities)
Reflective Paper Exercise

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